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# MassDEP Geographic Response Plan – 2017 Scituate Harbor (SS-04) Exercise

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May 16, 2017

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included; users are encouraged to add additional sections as needed to support their own organizational needs.

## EXERCISE OVERVIEW

<b>Exercise Name</b>	2017 Scituate Harbor GRP Exercise
<b>Exercise Dates</b>	May 16, 2017
<b>Scope</b>	This exercise is a Full Scale Exercise, planned for approximately six hours at Scituate, MA and upon the waters of Scituate Harbor. Exercise play is limited to Scituate Harbor and the adjacent shoreline.
<b>Mission Area(s)</b>	Response
<b>Core Capabilities</b>	Environmental Response/Health and Safety, Operational Coordination, Operational Communications
<b>Objectives</b>	<p>Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics.</p> <p>Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Assignment List (ICS 201) and implementation of on-site incident management and tactical operations.</p> <p>Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using VHF communications.</p>
<b>Threat or Hazard</b>	Discharge of oil into a navigable waterway
<b>Scenario</b>	An oil spill has occurred that threatens Scituate Harbor. The Scituate and Marshfield Fire Departments and Harbormaster staff will utilize GRP SS-04 to deploy protective booming to protect sensitive resources in Scituate Harbor and Satuit Brook.
<b>Sponsor</b>	Massachusetts Department of Environmental Protection (MassDEP).

## Participating Organizations

Participating organizations included:

- Marshfield Fire Department
- Marshfield Harbormaster
- Scituate Fire Department
- Scituate Harbormaster
- Massachusetts Department of Environmental Protection (MassDEP)
- U.S. Coast Guard Sector Boston (USCG)
- Moran Environmental Recovery (MER)
- Nuka Research and Planning Group, LLC (Nuka Research)

Note: See Appendix B for participant count

## Point of Contact

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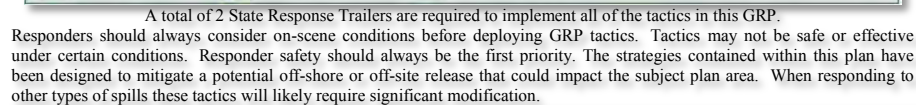
Exercise participants being trained on how to connect boom segments using ASTM slide connectors.



The Incident Commander conducts an operational and safety briefing prior to beginning the exercise.



Photos courtesy of Nuka Research & Planning Group



Nuka Research and Planning Group, LLC

Homeland Security Exercise and Evaluation Program (HSEEP)

## ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team. Table 2 includes compiled data from the Exercise Evaluation Guide (EEG) including the organizational capability targets, associated critical tasks, and observations as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics.	Environmental Response/ Health and Safety	P			
Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.	Operational Coordination	P			
Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire, police and harbor master departments using VHF communications	Operational Communications	P			
<b>Ratings Definitions:</b> <ul style="list-style-type: none"> <li>Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.</li> <li>Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).</li> </ul>					

**Table 1. Summary of Core Capability Performance**



Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
<b>Environmental Response/ Health and Safety</b>	<b>Overview of Response Equipment</b>	<ul style="list-style-type: none"> <li>Access Mass DEP Trailer</li> <li>Identify boom and sorbents</li> <li>Connect boom together</li> <li>Connect towing bridle to boom</li> <li>Connect components of anchor system together</li> </ul>	<ul style="list-style-type: none"> <li><b>Performed without Challenges (P)</b></li> <li>Active participation by all exercise players in trailer equipment demonstrations. Use of skill stations resulted in increased engagement of participants.</li> <li>MassDEP trailers were easily accessible and marked. All boom components identified and discussed for instructional purposes. All response equipment readily available and in good condition.</li> <li>Participation by the Fire and Harbormaster Departments from Scituate and Marshfield were excellent and they worked well together. All exercise participants were extremely engaged and actively involved.</li> </ul>
	<b>Basic Booming Operations</b>	<ul style="list-style-type: none"> <li>Transport and tow boom.</li> <li>Anchoring and Connecting boom to shore</li> <li>Safe vessel and crew operations. (Refer to ICS-208)</li> </ul>	<ul style="list-style-type: none"> <li><b>Performed Without Challenges (P)</b></li> <li>Participants were very familiar with boom connection and anchoring. Boom was effectively anchored to the pier during containment and diversion tactics.</li> <li>Shore anchor on the south shore DV-01c was set in the mud and very secure. It was also set just below the waterline, which would have required some adjustment at high tide.</li> <li>Line tossing was used to transfer boom to shore. Heaving balls would be very useful in facilitating a more effective transfer.</li> <li>Extra bridles in boat would have facilitated demobilization of DV-01c strategy. Recommend that this be reinforced during classroom instruction.</li> <li>Boom successfully deployed from trailer using bow/hip/stern tow methods. All boat operators were extremely skillful when towing boom during diversion and containment evolutions.</li> <li>Trip lines were used and this made anchoring evolutions much safer and adjustments much easier. Recommend continuing with program for providing all trailers with trip lines.</li> <li>Safety officer did an excellent job. No safety issues observed.</li> </ul>
	<b>Implement Tactics in GRP</b>	Containment Boom (pier)	<ul style="list-style-type: none"> <li><b>Performed without Challenges (P)</b></li> <li>Containment boom deployed around a skiff along the north face of pier at the Cole Parkway boat ramp.</li> <li>Pier team very effective in securing boom to pier.</li> </ul>

		Diversion Boom	<ul style="list-style-type: none"> <li>• <b>Performed without Challenges (P)</b></li> <li>• DV-01c deployed without modifications Shore teams outstanding in deploying and recovering boom. Trailer team worked very effectively.</li> <li>• GRP tactic extremely effective. Surrogate moved toward shoreside recovery point on the north side of DV-01c as designed. No changes are recommended for this tactic.</li> <li>• The north shore anchor was initially in the wrong position, adjustments were quickly implemented and that took slack out of the boom, allowing for effective movement of the surrogate across the boom face toward shore.</li> </ul>
<b>Operational Coordination</b>	<b>Create and Execute An Assignment List (ICS 201)</b>	<ul style="list-style-type: none"> <li>• Fill out ICS 201</li> <li>• Assignments in ICS 201 are followed and on-scene adjustments.</li> <li>• Participants demonstrate command and control of exercise</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Performed without Challenges (P)</b></li> <li>• IC was very effective in directing the exercise, which involved multiple assets and multiple towns. All units operated in a safe manner.</li> <li>• Tasking was clear. Assignments were followed and adjustments were rapidly/effectively made by boat crews and shore teams.</li> <li>• Safety vessel was shifted to accommodate mechanical failure of vessel initially assigned to this role. Scituate HM rapidly brought another vessel on scene.</li> <li>• Large-scale printout of the GRP was extremely useful for the IC to use during the exercise. Recommend continuing this practice.</li> </ul>
<b>Operational Communications</b>	<b>Effectively Communicate Using VHF equipment</b>	<ul style="list-style-type: none"> <li>• Create Communications Plan</li> <li>• Communicate with other participants using organic VHF equipment</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Performed without Challenges (P)</b></li> <li>• Communications plan was followed as designed (VHF Channel 14). All participants used the identified frequencies or voice communications when appropriate for exercise communications.</li> </ul>

Table 2. Summary of Organizational Capability Targets and Associated Critical Tasks

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

## **Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics**

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

### **Core Capability 1: Environmental Response/Health and Safety**

#### **Strengths**

The full capability level can be attributed to the following strengths:

**Strength 1:** Exercise participants from Scituate and Marshfield, along with MassDEP, Nuka Research and Moran Environmental worked well together to complete assigned tasks.

**Strength 2:** The use of stations during the trailer demonstration was effective in facilitating increased student participation during the trailer equipment demonstration.

**Strength 3:** All vessels did an excellent job of towing sections of boom and setting anchors. Shore teams were also outstanding.

#### **Areas for Improvement**

The following areas require improvement to achieve the full capability level:

**Area for Improvement 1:** Anchoring for the south end of the DV-01c strategy could have been set above the high water mark.

**Reference:** Massachusetts GRP Tactics Guide.

**Analysis:** The shore anchor on the south end of DV-01c was set in the mud and very secure. It was also set just below the waterline, which would have required some adjustment at high tide.

## **Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.**

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.



## Core Capability 2: Operational Coordination

### Strengths

The full capability level can be attributed to the following strengths:

**Strength 1:** The Incident Commander did an outstanding job of controlling the exercise and all response efforts. All tasking was clear and concise. Personnel were used effectively to accomplish all tasks

### Areas for Improvement

The following areas require improvement to achieve the full capability level:

**Area for Improvement 1:** None

**Reference:** N/A

**Analysis:** N/A

## Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbor masters, and other state and federal first responders using VHF communications

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

## Core Capability 3: Operational Communications

### Strengths

The full capability level can be attributed to the following strengths:

**Strength 1:** The communications plan was followed as designed in the final planning meeting and modified on the day of the exercise. All participants used the identified frequencies or voice communications when appropriate for exercise communications.

**Strength 2:** All exercise participants showed great teamwork in distributing radios to all teams to enable all communications to be on Channel 17.

### Areas for Improvement

The following areas require improvement to achieve the full capability level:

**Area for Improvement 1:** All exercise participants did not have radios programmed to use VHF Channel 17 as a working frequency.

**Reference:** US Coast Guard VHF Channels (<https://www.navcen.uscg.gov/?pageName=mtvhf>).

**Analysis:** During the final planning meeting, the communications plan was to use VHF Channel 14 because not every radio was programmed with Channel 17. Prior to the exercise, Scituate

Fire Department had enough portable radios programmed with channel 17 to enable all boats, shore team, trailer team and the IC to use Channel 17. As a result, Channel 17 was used exclusively for the duration of the exercise. It is recommended that Channel 17 be programmed into all radios to ensure the ability to communicate on the designated state/local maritime control frequency to coordinate with other agencies when responding to a marine oil spill.

Shore anchor is deployed at the south end of the DV-01c diversion booming tactic.



Photo courtesy of Nuka Research & Planning Group

Containment boom being deployed around a vessel on the north face of the pier at Cole Parkway boat ramp.



Photo courtesy of Nuka Research & Planning Group

Peat moss, used as a surrogate for spilled oil, is collected by the boom.



Boom is retrieved by the shore team upon completion of the exercise.



Photos courtesy of Nuka Research & Planning Group

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the towns of Marshfield and Scituate following the MassDEP GRP Exercise conducted on May 16th, 2017.

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element <sup>1</sup>	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Environmental Response/Health and Safety	None	N/A	Planning	N/A	N/A	N/A	N/A
Core Capability 2: Operational Coordination	None	N/A	N/A	N/A	N/A	N/A	N/A
Core Capability 3: Operational Communications	1. Communicate with Channel 17 VHF-FM	Recommend that Scituate and Marshfield Fire and Harbormaster Departments program radios to use Channel 17 VHF-FM	Equipment	Scituate and Marshfield Fire and Harbormaster Departments	TBD	TBD	TBD

<sup>1</sup> Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

## APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Marshfield, MA	Participant Count
Marshfield FD	6
Marshfield HM	3
Town of Scituate, MA	
Scituate FD	6
Scituate HM	6
Scituate PD	2
<b>TOWN PARTICIPANTS</b>	<b>23</b>
Federal	
United States Coast Guard (USCG)	4
State	
Massachusetts Department of Environmental Protection (MassDEP)	2
Nuka Research and Planning Group, LLC (contractor for MassDEP)	2
Moran Environmental Recovery (contractor for MassDEP)	2
<b>TOTAL</b>	<b>33</b>

56% of first responders reported having previous GRP exercise experience.

## APPENDIX C: EXERCISE EVALUATION FORM

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**MassDEP  
Geographic Response Plan (GRP)  
Exercise and Testing Program**

**Participant Feedback Form**

1	2	3	4	5
Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree

Please use the above rating scale to answer the questions for each of the following topics.

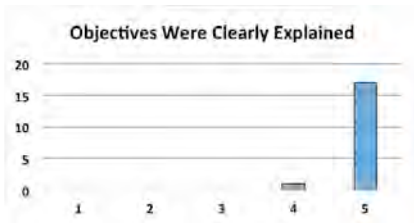
The objectives were clearly explained and the exercise met those objectives.	1   2   3   4   5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1   2   3   4   5
Comments:	
The instructor(s) did an excellent job.	1   2   3   4   5
Comments:	
I found the classroom to be a comfortable learning environment.	1   2   3   4   5
Comments:	
I feel more prepared to respond to an oil spill than I did before this exercise.	1   2   3   4   5
Comments:	
The best thing about this training was_____.	
This training could have been improved by _____.	

Please use the back of the sheet if you need more room for comments.

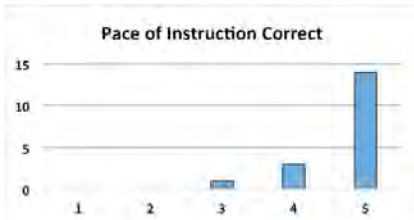
(Rev 2016)



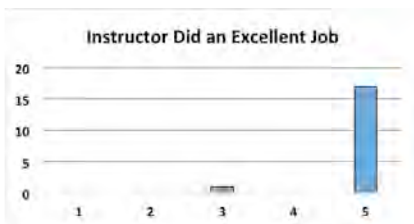
## Student Feedback Summary



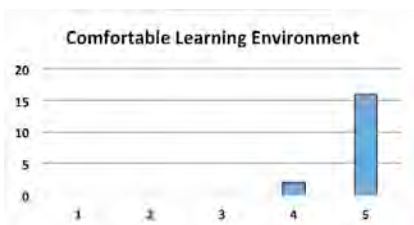
**Student Comments:** "Not enough instruction during the exercise; I have never done an exercise like this and found all objectives reasonable and easy; Very informative."



**Comments:** None.



**Comments:** "Very knowledgeable."



**Comments:** "Learned a lot."



**Comments:** "Good drill - very important training; Excellent hands on experience; Very well run; You only see one aspect of the exercise; Ready to go if needed."

**The best thing about this training was...** "Knowledge of the instructors; Hands on; Practical experience; Interoperability training/coordination of local departments/federal/state resources; Hands on training; Suggested SR (sic) within the harbor w/ map; Hands on training helps the learning; The people teaching knew their job; Working with personnel from other towns."

**This training could be improved by....** "Better comms; Less classroom, more practice; I personally would like more boat time; Deploying the pete (sic) first to show where to anchor first and watch the 'spill' move & change; all good; all good, keep doing what you are doing."